

Historic, Archive Document

Do not assume content reflects current
scientific knowledge, policies, or practices.

1.9
Ex 7 S

Reserve

Office of Home Economics

November 20, 1922.

UNITED STATES DEPARTMENT OF AGRICULTURE
STATES RELATIONS SERVICE
Washington, D. C.

SUGGESTIONS FOR JUDGING TEXTILES.

Everyone who buys textiles of any kind is aided by an ability to judge the kind and quality of the fibers of which they are made. A few suggestions regarding cotton, linen, wool, silk, and artificial silk are given here.

Cotton.-- Cotton is rarely adulterated, but materials made of cotton are in many cases sized, that is, covered with a solution of glue, starch, or clay, which fills in the spaces between the threads and may make the material, until it is washed, seem finer and better than it really is.

Cotton yarn is often mercerized by treating it with chemicals and drying it under tension, a process that gives it a high luster and renders it smooth and strong. Mercerized cotton is excellent for many purposes; it is only when it is passed off as silk or linen at the price of these, that the buyer should make objection.

Linen.-- Linen sometimes has cotton mixed with it. Many towelings, for example, have a cotton warp and a linen filling. Mercerized cotton is often used to adulterate linen, the luster making it difficult to detect the difference. These mixtures are not necessarily undesirable, especially now that pure linen is scarce, but they should be sold for what they are, not as pure linen.

Wool.-- The quantity of wool now produced would not permit all the woolen goods needed to be made of pure new wool; therefore it is necessary to resort to some methods of substitution. The two most common substitutes for pure new wool are cotton and shoddy. The mixing of cotton with wool is of advantage in the case of flannels and other wash materials, as it lessens shrinkage. When used in dress materials in limited proportions, it is not unsatisfactory and provides a less expensive material suitable for many uses. Shoddy, which is reclaimed or remanufactured wool, is made from waste pieces of wool from dressmakers' and tailors' shops and from old woolen scraps and garments that have been sold as rags. These are treated chemically to remove all the cotton, and then are torn apart to separate the fibers, which are spun with new yarn. The amount of wear to which the pieces were subjected will, of course, affect the quality of the material in which the shoddy fiber is used.

Silk and artificial silk.-- Pure silk commands so high a price that many less expensive substitutes and adulterations have been developed. Silk is in many cases weighted with salts of tin, iron, or lead, and is sometimes adulterated by the use of cotton. Artificial silk, a vegetable product with high luster, is now manufactured as a substitute for real silk, and is either woven with cotton or used alone. Good grades of artificial silk are often more durable than poor grades of real silk.

An experienced person is guided both by the look and by the feel of a material. Handling and studying samples of materials of known quality will help in learning to distinguish different kinds and qualities.

There are a number of simple tests that may be used in the home. Some of them are described here:

Testing with the eye and the fingers.-- In the first place, both warp and filling threads should be raveled in order to examine each carefully. Cotton fibers appear short, dull, and fuzzy. Linen fibers are long, fine, stiff, and lustrous. Wool fibers are short, curly or kinky, and bright. Silk fibers are very long, fine, smooth, and straight. Artificial silk fibers are long, lustrous and somewhat hard; the individual fibers tend to spread out stiffly at the end of a thread.

Rubbing the surface of cotton or linen briskly will remove sizing and show whether the material is closely woven; also holding a piece of material to the light will show the extent to which sizing has been used. Boiling, which is a longer process, will also remove the dressing.

If cotton cloth is torn, the ends of the threads appear fuzzy, while those of linen are straight and smooth. Cotton feels soft and somewhat warm; linen feels wiry and cool. A drop of glycerin on linen will show a transparent spot, but cotton is not so affected.

Burning the threads.--The presence of substitute fibers in cloth may be determined by raveling separate groups of lengthwise and crosswise threads, holding them in the fingers or by tongs, lighting the ends of the threads, and noticing how they burn.

Cotton burns quickly and steadily with a yellow flame, the odor is like that of burnt paper or wood, the flame does not go out easily, a gray ash is left.

Linen burns much like cotton, and leaves an ash.

Wool burns slowly with an unsteady blue flame that goes out easily, it gives off an odor like burning hair or feathers, a ball of ash is left on the end of the fiber.

Silk burns more readily than wool and gives off a similar odor, a ball of ash is left on the end of the thread. If silk is weighted, only the silk itself burns and the mineral salts are left, giving more ash than pure silk. If the silk is heavily weighted, the ash may even retain the shape of the sample.

Artificial silk burns like cotton and is very inflammable.

Chemical tests.-- The following simple chemical tests may be used in the home to determine whether silk or wool materials have cotton mixed with them, and also to determine mixtures of silk and wool, silk and cotton, or artificial silk and cotton or wool. Some of the substances called for are very powerful or even poisonous, and must be handled and stored with great caution.

very powder

(1) Combination of silk and cotton or wool and cotton. Add one tablespoon of caustic potash or lye to one pint of cold water, and heat the sample of material in this solution for fifteen minutes. The lye destroys the animal fiber, leaving the cotton intact.

very fine
(2) Combination of silk and cotton, or silk and wool, or artificial silk with cotton or wool. Put a sample of the material in cold hydrochloric acid as strong as can be bought at the drug store. The solution will destroy ordinary silk in 2 minutes, and the so-called wild silk found especially in low-grade silks, in half an hour or longer. Artificial silk becomes gelatinous and so tender that it washes away. The cotton or wool fibers are left.

(3) To test underwear or white material from which a sample can not be cut, for a mixture of silk and cotton or of wool and cotton, place a drop of 5 per cent solution of picric acid on an inconspicuous part of the material or the garment. As color shows on the surface, wash the spot with water. The color will disappear from the cotton, but the silk or the wool will be yellow. This stain may be removed by using ammonia, which should be promptly rinsed out with water.

Strength test.-- To test the strength of a piece of material, place the ends of the thumbs together, holding the material between them and the first finger and pull first on the warp or lengthwise threads, and then on the woof or crosswise threads to see how much strain they will stand. Notice how the warp threads compare in strength with the woof, or filling threads. A fine warp will not stand the strain from a heavy filling thread; therefore, materials so woven are not strong, neither are those which have a heavy cord woven in beside a very fine thread, as in some dimities and muslins.

